Jumpers and Headers Setting Guide

ASRock Industrial

IMB-1004

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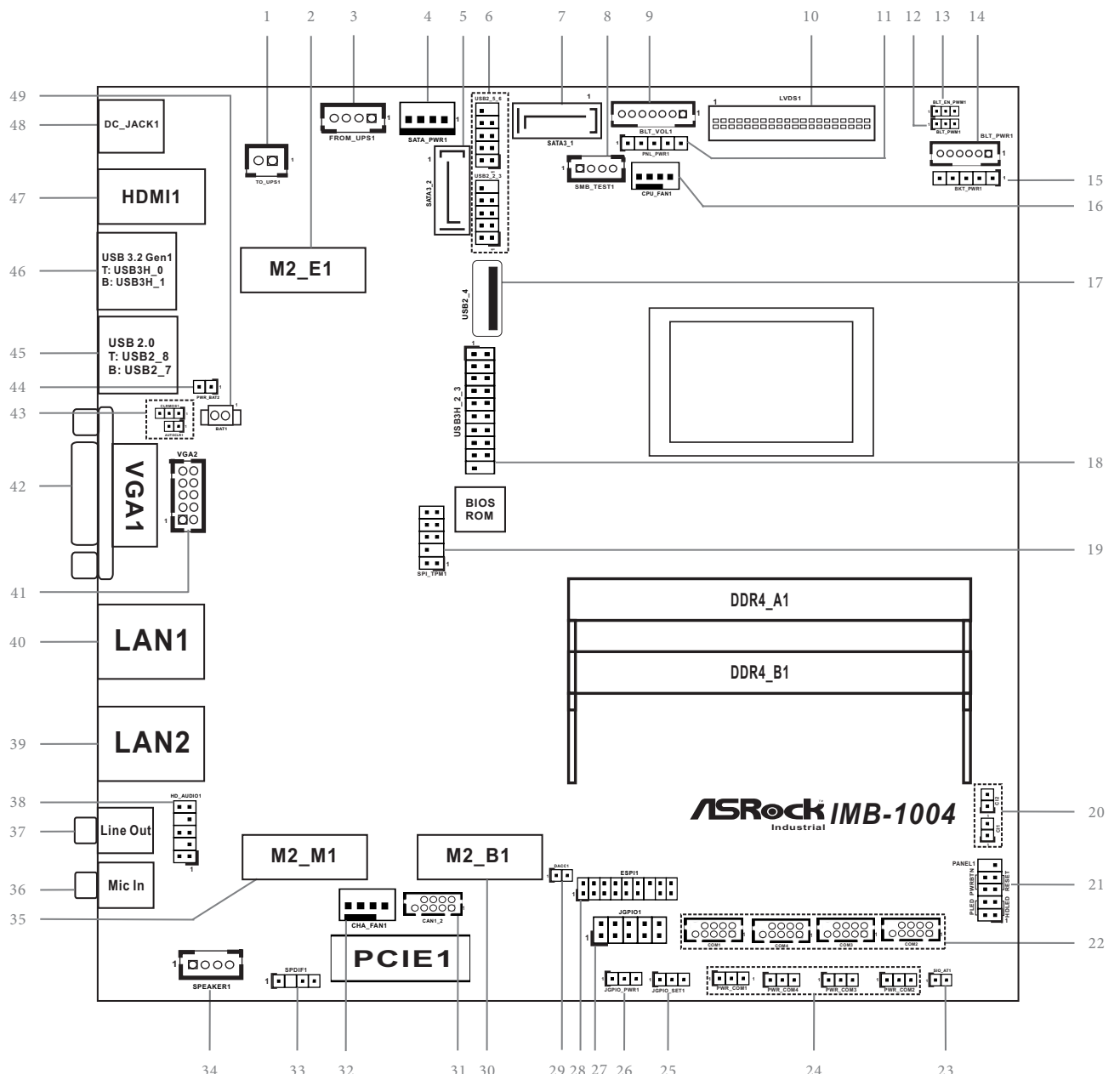
HDMI® HIGH-DEFINITION MULTIMEDIA INTERFACE

Revision History

Date	Description
April 20, 2022	First Release
April 10, 2023	Second Release
August 15, 2023	Third Release
January 26, 2024	Fourth Release



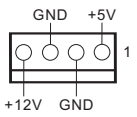
1 : 2-pin UPS Module Power Input Connector
Pin1: GND
Pin2: DC Input

2 : M.2 Key-E Socket (M2_E1)

PIN	SIGNAL	SIGNAL	PIN
1	GND	+3.3V	2
3	USB_D+	+3.3V	4
5	USB_D-	NA	6
7	GND	NA	8
9	NA	NA	10
11	NA	NA	12
13	NA	NA	14
15	NA	NA	16
17	NA	GND	18
19	NA	NA	20
21	NA	NA	22
23	NA		
33	GND	NA	32
35	PETp	NA	34
37	PETn	NA	36
39	GND	NA	38
41	PERp	NA	40
43	PERn	NA	42
45	GND	NA	44
47	PEFCLKp	NA	46
49	PEFCLKn	NA	48
51	GND	NA	50
53	CLKREQ#	PERST0#	52
55	WAKE#	NA	54
57	GND	NA	56
59	NA	NA	58
61	NA	NA	60
63	GND	NA	62
65	NA	NA	64
67	NA	NA	66
69	GND	NA	68
71	NA	NA	70
73	NA	+3.3V	72
75	GND	+3.3V	74

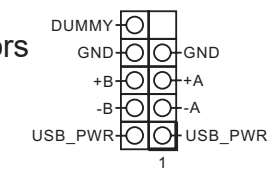
3 : 4-pin DC-in PWR Connector (Input +12V ~+28V) & UPS Module Power Output Connector
Pin1 and Pin4: GND
Pin2 and Pin3: DC Input

4 : SATA Power Output Connector



5 : SATA3 Connector (SATA3_2)

6 : USB 2.0 Connectors (USB2_2_3, USB2_5_6)

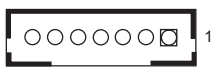


7 : SATA3 Connector (SATA3_1)

8 : SMB_TEST1 (SMBUS_TEST1)

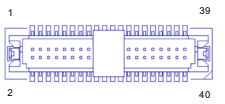
PIN	Signal Name	PIN	Signal Name	PIN	Signal Name	PIN	Signal Name
1	GP_E01	2	SMB_CLK	3	SMB_DATA	4	GND

9 : Backlight Volume Control (BLT_VOL1)



PIN	Signal Name
1	GPIO_VOL_UP
2	GPIO_VOL_DW
3	PWRDN
4	BRIGHTNESS_UP
5	BRIGHTNESS_DW
6	GND
7	GND

10 : LVDS Panel Connector



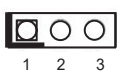
PIN	Signal Name	PIN	Signal Name	PIN	Signal Name	PIN	Signal Name
1	LCD_VCC	2	LCD_VCC	39	LCD_BLT_VCC	40	LCD_BLT_VCC
3	+3.3V	4	N/A	37	CON_LBKLT_CTL	38	LCD_BLT_VCC
5	LVDS_A_DATA0	6	LVDS_A_DATA0#	35	GND	36	CON_LBKLT_EN
7	GND	8	GND	33	LVDS_B_CLK#	34	LVDS_B_CLK
9	LVDS_A_DATA1#	10	LVDS_A_DATA1	31	LVDS_B_DATA3	32	GND
11	GND	12	LVDS_A_DATA2#	29	DPLVDD_EN	30	LVDS_B_DATA3#
13	LVDS_A_DATA2	14	GND	27	LVDS_B_DATA2#	28	LVDS_B_DATA2
15	LVDS_A_DATA3#	16	LVDS_A_DATA3	25	LVDS_B_DATA1	26	GND
17	GND	18	LVDS_A_CLK#	23	GND	24	LVDS_B_DATA1#
19	LVDS_A_CLK	20	GND	21	LVDS_B_DATA0#	22	LVDS_B_DATA0

* eDP pin definition (switch by BIOS):

PIN	Signal Name	PIN	Signal Name	PIN	Signal Name	PIN	Signal Name
1	LCD_VCC	2	LCD_VCC	39	LCD_BLT_VCC	40	LCD_BLT_VCC
3	N/A	4	N/A	37	CON_LBKLT_CTL	38	LCD_BLT_VCC
5	N/A	6	N/A	35	GND	36	CON_LBKLT_EN
7	N/A	8	GND	33	N/A	34	N/A
9	EDP_TX1#	10	EDP_TX1	31	N/A	32	GND
11	GND	12	EDP_TX0#	29	DPLVDD_EN	30	N/A
13	EDP_TX0	14	GND	27	N/A	28	N/A
15	N/A	16	N/A	25	N/A	26	GND
17	GND	18	EDP_AUXN	23	GND	24	N/A
19	EDP_AUXP	20	GND	21	N/A	22	N/A

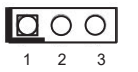
11 : eDP and LVDS Panel Power Select (LCD_VCC) (PNL_PWR1)
1-2: LCD_VCC: +3V
2-3: LCD_VCC: +5V
4-5: LCD_VCC: +12V

12 : Brightness Control Mode (BLT_PWM1)
1-2: From eDP PWM to CON_LBKLT_CTL
2-3: From LVDS PWM to CON_LBKLT_CTL

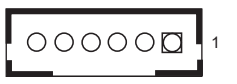


* Please set to 1-2 when adjusting brightness by Brightness Control bar under OS.
* Please set to 2-3 when adjusting brightness by BLT_VOL1.

13 : CON_LBKLT_EN and CON_LBKLT_CTL Voltage Level (BLT_EN_PWM1)
1-2: 5V Level
2-3: 3V Level



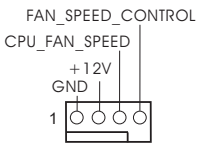
14 : Backlight Power Connector (BLT_PWR1)



PIN	Signal Name
1	GND
2	GND
3	CON_LBKLT_CTL
4	CON_LBKLT_EN
5	LCD_BLT_VCC
6	LCD_BLT_VCC

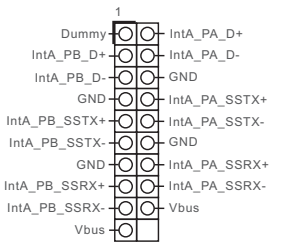
15 : eDP and LVDS Backlight Power Select (LCD_BLT_VCC) (BKT_PWR1)
1-2: LCD_BLT_VCC: +5V
2-3: LCD_BLT_VCC: +12V
4-5: LCD_BLT_VCC: DC Input

16 : 4-Pin CPU FAN Connector (+12V)

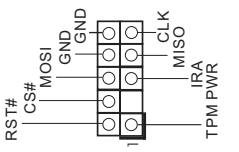


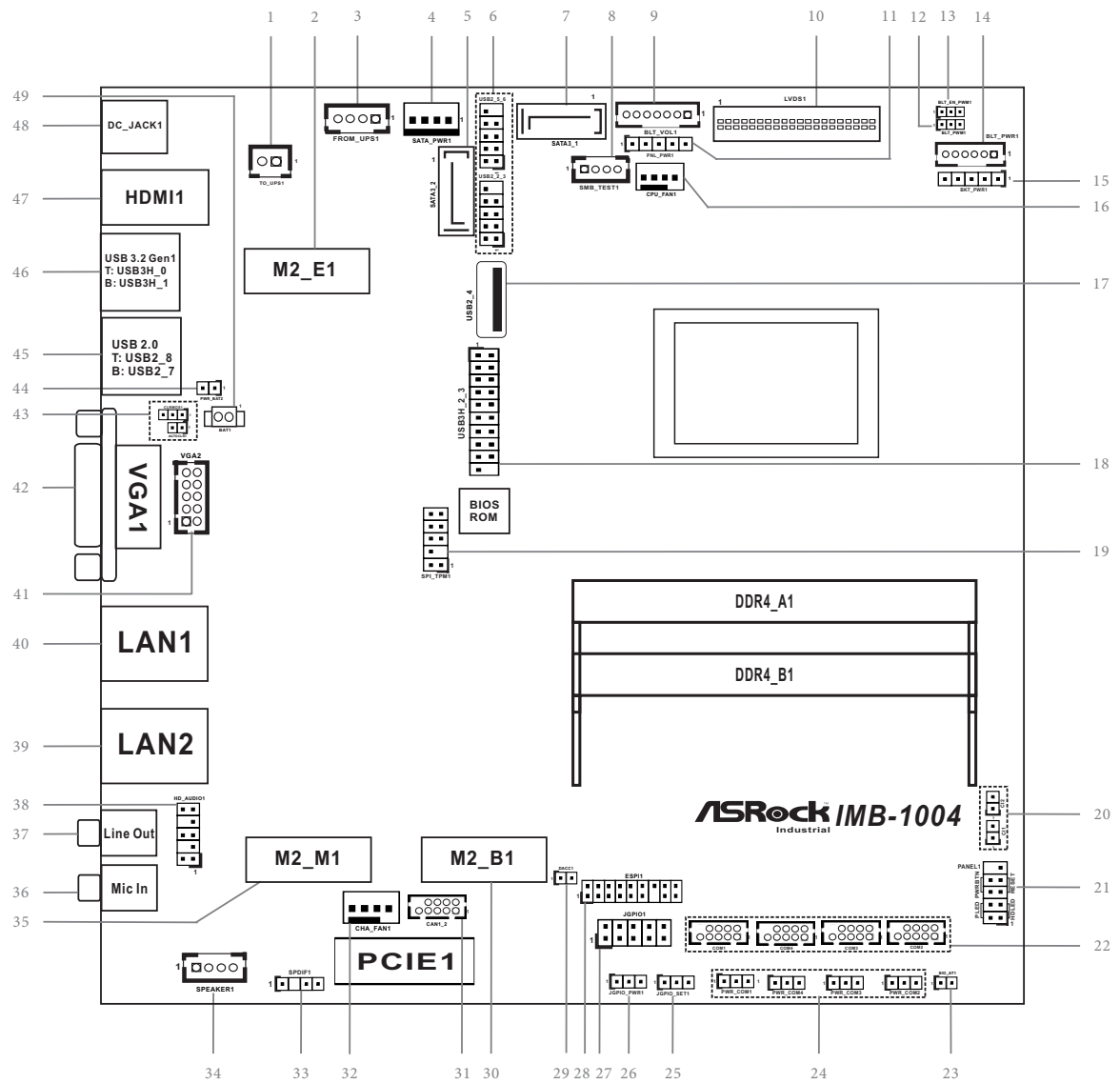
17 : USB 2.0 Connector (USB2_4)

18 : USB 3.2 Gen1 Connector (USB3H_2_3)

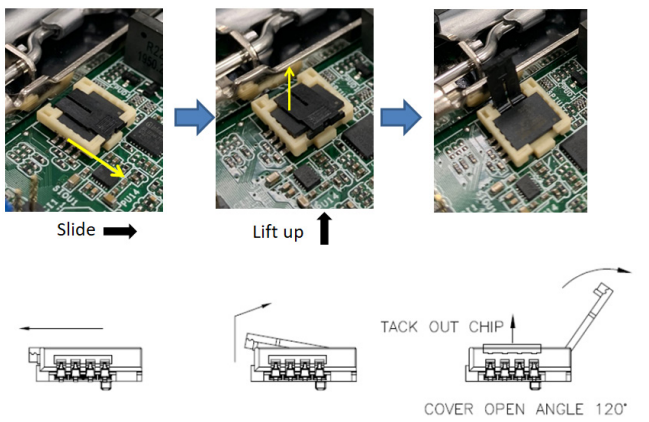


19 : SPI TPM Header

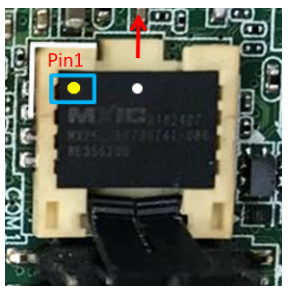




Installation of ROM Socket

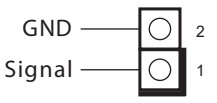


* Do not apply force to the actuator cover after ic inserted.
* Do not apply force to actuator cover when it is opening over 120 degree, Otherwise, the actuator cover may be broken.

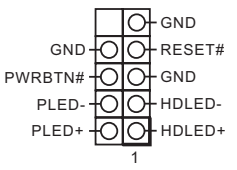


* The yellow dot (Pin1) on the ROM must be installed at pin1 position of the socket.
* Make sure the white dot on the ROM is installed outwards of the socket.
* For further details of how to install ROM, please refer to ASRI website.
Warning: If the installation does not follow as the picture, then it may cause severe damage to chipset & MB.

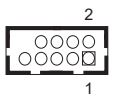
20 : Chassis Intrusion Headers
CI1:
Close: Active Case Open
Open: Normal
CI2:
Close: Normal
Open: Active Case Open



21 : System Panel Header



22 : Internal COM Port Headers
COM1, 2 (RS232)
COM3, 4 (RS232/422/485)



PIN	Signal Name	PIN	Signal Name	PIN	Signal Name	PIN	Signal Name	PIN	Signal Name
10		8	CCTS#	6	DDSR#	4	DDTR#	2	RRXD
9	PWR	7	RRTS#	5	GND	3	TTXD	1	DDCD#

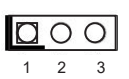
* This motherboard supports RS232/422/485 on COM3, 4 ports. Please refer to below table for the pin definition. In addition, COM3, 4 ports (RS232/422/485) can be adjusted in BIOS setup utility > Advanced Screen > Super IO Configuration. You may refer to our user manual for details.

COM3, 4 Port Pin Definition

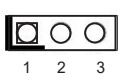
PIN	RS232	RS422	RS485
1	DCD	TX-	RTX-
2	RXD	TX+	RTX+
3	TXD	RX+	N/A
4	DTR	RX-	N/A
5	GND	GND	GND
6	DSR	N/A	N/A
7	RTS	N/A	N/A
8	CTS	N/A	N/A
9	PWR	PWR	PWR
10	N/A	N/A	N/A

23 : SIO_AT1
Open : ATX Mode
Short : AT Mode

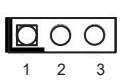
24 : COM Port PWR Setting Jumpers
PWR_COM1 (For COM Port1)
PWR_COM2 (For COM Port2)
PWR_COM3 (For COM Port3)
PWR_COM4 (For COM Port4)
1-2 : +5V
2-3 : +12V



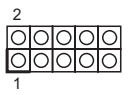
25 : Digital Input / Output Default Value Setting (JGPIO_SET1)
1-2: Pull-High
2-3: Pull-Low



26 : Digital Input / Output Power Select (JGPIO_PWR) (JGPIO_PWR1)
1-2: +12V
2-3: +5V

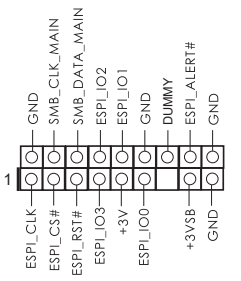


27 : Digital Input/Output Pin Header (JGPIO1)



PIN	Signal Name	PIN	Signal Name	PIN	Signal Name	PIN	Signal Name	PIN	Signal Name
2	SOC_H19	4	SOC_D01	6	SOC_D02	8	SOC_D03	10	GND
1	SIO_GP34	3	SIO_GP35	5	SIO_GP36	7	SIO_GP37	9	JGPIO_PWR

28 : ESPI Header



29 : DACC Jumper (DACC1)
Open: Normal
Short: Auto Clear CMOS (Power Off)

* Auto clear CMOS when system boot improperly

30 : M.2 Key-B Socket (M2_B1)

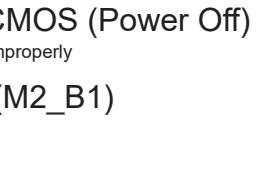
Pin	Signal Name	Signal Name	Pin
1	NA	+3.3V	2
3	GND	+3.3V	4
5	GND	FuLL_Card_Power_off	6
7	USB_D+	W_DISABLE1#	8
9	USB_D-	WWAN_LED#	10
11	GND		
		NA	20
21	GND	NA	22
23	NA	NA	24
25	NA	W_DISABLE2#	26
27	GND	NA	28
29	USB3_RX-	UIM_RESET	30
31	USB3_RX+	UIM_CLK	32
33	GND	UIM_DATA	34
35	USB3_TX-	UIM_PWR	36
37	USB3_TX+	NA	38
39	GND	NA	40
41	PERn0	NA	42
43	PERp0	NA	44
45	GND	NA	46
47	PETn0	NA	48
49	PETP0	PERST#	50
51	GND	CLKREQ#	52
53	PEFCLKn	WAKE#	54
55	PEFCLKp	NA	56
57	GND	NA	58
59	NA	NA	60
61	NA	NA	62
63	NA	NA	64
65	NA	NA	66
67	NA	NA	68
69	PEDET	+3.3V	70
71	GND	+3.3V	72
73	GND	+3.3V	74
75	NA		

31 : CAN Connector (CAN1_2)

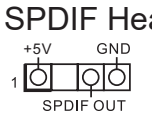
PIN	Signal Name	PIN	Signal Name	PIN	Signal Name	PIN	Signal Name	PIN	Signal Name
		8	GND	6	CAN2_RX0	4	CAN2_TX0	2	+5VSB
9	DUMMY	7	GND	5	CAN1_RX0	3	CAN1_TX0	1	+5VSB

* Supported by IMB-1004D, IMB-1004N

32 : 4-Pin Chassis FAN Connector (+12V)



33 : SPDIF Header



34 : 3W Audio AMP Output Wafer

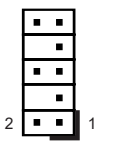
PIN	Signal Name	PIN	Signal Name	PIN	Signal Name	PIN	Signal Name
1	OUTLN	2	OUTLP	3	OUTRP	4	OUTRN

35 : M.2 Key-M Socket (M2_M1)

Pin	Signal Name	Signal Name	Pin
1	GND	+3.3V	2
3	GND	+3.3V	4
5	NA	NA	6
7	NA	NA	8
9	GND	SATA_LED	10
11	NA	+3.3V	12
13	NA	+3.3V	14
15	GND	+3.3V	16
17	NA	+3.3V	18
19	NA	NA	20
21	GND	NA	22
23	NA	NA	24
25	NA	NA	26
27	GND	NA	28
29	PERn1	NA	30
31	PERp1	NA	32
33	GND	NA	34
35	PETn1	NA	36
37	PETp1	NA	38
39	GND	NA	40
41	PERn0/SATA-B+	NA	42
43	PERp0/SATA-B-	NA	44
45	GND	NA	46
47	PETn0/SATA-A-	NA	48
49	PETP0/SATA-A+	PERST#	50
51	GND	CLKREQ#	52
53	PEFCLKn	WAKE#	54
55	PEFCLKp	NA	56
57	GND	NA	58
67	NA	NA	68
69	PEDET	+3.3V	70
71	GND	+3.3V	72
73	GND	+3.3V	74
75	GND		

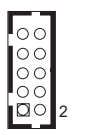
36 : Audio Output: Pink – Mic In
37 : Audio Output: Green – Line Out
38 : Front Panel Audio Header

PIN	Signal Name	PIN	Signal Name
10	LINE2_JD	9	LIN2_L
8		7	GND
5	MIC2_JD	5	LIN2_R
4		3	MIC2_R
2	GND	1	MIC2_L

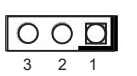


39 : RJ45 LAN Port (LAN2)
40 : RJ45 LAN Port (LAN1)
41 : VGA Header

PIN	Signal Name	PIN	Signal Name
9	DDC_CLK	10	DDC_DATA
7	HSYNC	8	VSYNC
5	BLUE	6	GND
3	GREEN	4	GND
1	RED	2	GND



42 : D-Sub Port (VGA1)
43 : Clear CMOS Jumpers
CLRMOS1:
1-2: Normal
2-3: Clear CMOS
AUTOCLR1:
Open: Normal
Short: Auto Clear CMOS When AC Power On



44 : PWR_BAT2
Open : Normal
Short : Charge Battery

45 : USB2.0 Ports (USB2_7_8)
46 : USB3.2 Gen1 Ports (USB3H_0_1)
47 : HDMI Port (HDMI1)
48 : DC Jack (DC_JACK1)
49 : Battery Connector

Back Side:
SIM Card Socket